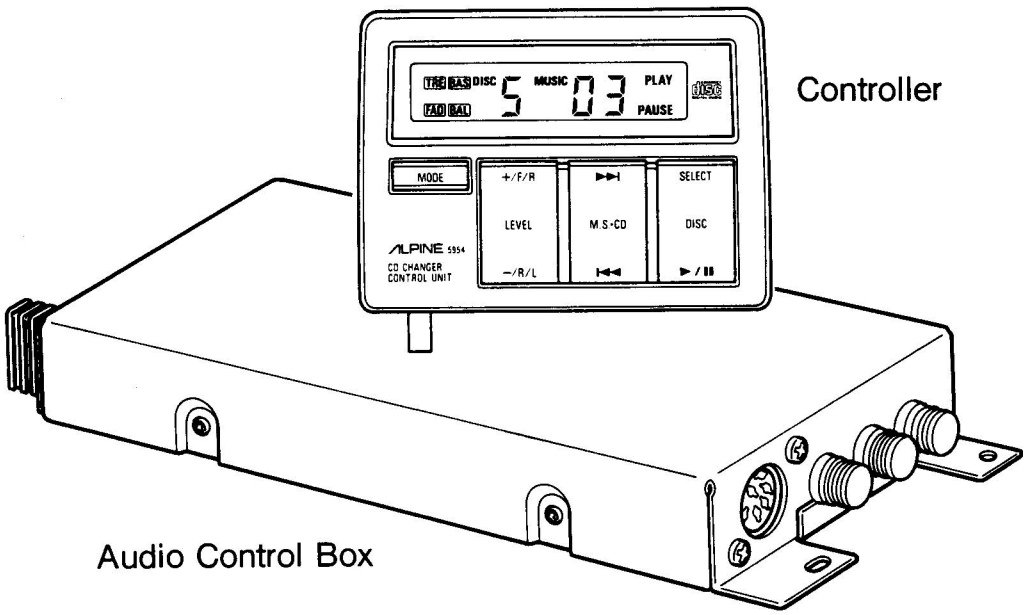
ALPINE SERVICE MANUAL

CD Changer Control System



Controller

Audio Control Box

5954

Contents

Specification 2
Error Indication for 5952 3
Indication for 5954 3
Precaution 3
Features 4
Controls and Indicators 4
Operation ..... 4 to 5
Connections and Installation ..... 6 to 8
Disassembly Instructions 9
Block Diagram 10
Schematic Diagram ..... 11 to 14
Parts Layout on P. C. Boards and Wiring Diagram ..... 15 to 18
Electrical Parts List ..... 19 to 22
Packing Assembly Parts List 23
Packing Method View 23
Cabinet Assembly Parts List 24
Exploded View (Cabinet) ..... 25 to 26
Semi-Condector Lead Identification ..... 27 to 30

Specifications

Power Supply ..... 14.4V DC
Pre Output Level/Impedance (AUX CD) ..... 500mV/10k ohm
Semiconductors Controller ..... 2 IC's, 7 Transistors, 1 Diode, 2 Zener Diodes
Audio Box ..... 7 IC's, 15 Transistors, 12 Diodes, 2 Zener Diodes
Dimension (W×H×D) ..... Controller : 84×61×19.5mm
Audio Box : 180×74×27mm
Weight ..... Unit Only 0.6kg
Output Power (1kHz) 1.2V
Channel Balance (1kHz) ..... 0±2dB
Frequency Response (Ref. 1kHz) ..... 20Hz 0±3dB
100Hz 0±1dB
10kHz 0±1dB
20kHz 0±3dB
S/N Ratio 70dB
Channel Separation (1kHz) 45dB
Total Harmonic Distortion (1kHz) 0.2%

NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

ERROR INDICATION FOR 5952

INDICATION	CAUSE	SOLUTION
E 01	Disc-change malfunction.	Consult your Alpine dealer.
E 02	Disc is in player mechanism.	Press the magazine eject button, and insert an empty magazine.
E 03 E 04 E 05	Disc-change malfunction.	If the code disappears within a few seconds, the unit is O.K. If not, consult your Alpine dealer.
E 06	Disc-change malfunction.	Press the magazine eject button and pull out the magazine. Check for error indication. Try again. If the magazine can not be pulled out, consult your Alpine dealer.
E 07	Magazine ejection impossible.	Press the magazine eject button. If the magazine does not eject, consult your Alpine dealer.
E 30	High Temperature.	Will disappear when the temperature returns to operation range.
E EE	No communication between the Controller and the Audio Control Unit.	Consult your Alpine dealer.
- --	No CD magazine in the CD changer.	Insert the CD magazine.
2 --	No CD at No. 2 slot of the CD magazine.	Insert a CD into the No. 2 slot of the CD magazine.

INDICATION FOR 5954

INDICATION	MEANING
PA	PAUSE indication activated by interruption of connected units other than the 5952.

PRECAUTION

When replacing a fuse, make sure the replacement fuse has the same amperage rating as shown on the fuse holder. If the fuse continues to blow, carefully check all electrical connections for short circuits. It is also a good idea to check the car's voltage regulator. Do not attempt to repair or service the unit yourself. Return the unit to your nearest authorized Alpine Service Station for servicing.

When your car is parked for a long period of time during the summer or winter, the temperature inside the car fluctuates greatly. Be sure the temperature inside the vehicle is between +60℃ (+140℉) and −10℃ (+14℉) before attempting to play a disc.

If you are using the Alpine 4320, do not connect the Input RCA Connectors (Labeled "LINE IN") of the 5954 Audio Box.

FEATURES

● MUSIC SENSOR

This feature allows you to automatically fast forward the pick-up through the music track currently playing to the beginning of the next selection and then begins playback. The changer will also automatically return to the beginning of the current music selection and begin playback.

● FAST FORWARD AND REVERSE

When either M. S. button (up/down) is depressed for more than 2 seconds, the laser pick-up moves rapidly forward or backward until the button is released.

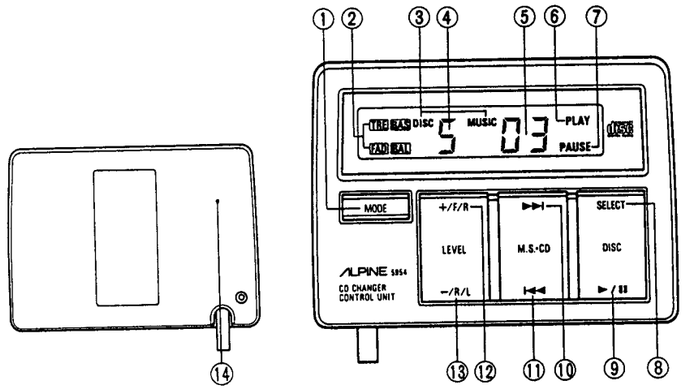
● CD PAUSE

This is used to temporarily stop CD play.

● DUAL PRE-AMP OUTPUTS

The 5954 allows you to expand your system easily with its Dual Outputs and Pre-Amp Fader.

CONTROLS AND INDICATORS



①Audio MODE Select/Mute Button
②TREble/BASs/FADer/BALance Indicator
③DISC/MUSIC Indicator
④Disc No./F(Front)/R(Rear)/L(Left)/R(Right) Indicator
⑤Track No./Volume/Treble/Bass/Fader/Balance Level Indicator
⑥PLAY Indicator
⑦PAUSE Indicator
⑧DISC Select Button
⑨DISC Play/Pause Button
⑩CD Fast Forward/Music Sensor up (▶▶|) Button
⑪CD Reverse/Music Sensor down (|◀◀)Button
⑫Level Adjustment Button (+/F/R)
⑬Level Adjustment Button (−/R/L)
⑭Reset Switch

OPERATION

BASIC OPERATION

Initial System Setup

When operating the 5954 for the very first time after installation of th unit or replacement of the car battery, press the Reset switch ⑭ on th backpanel of the Controller with a sharp pencil or other pointed objec

Connecting the 5954 with the Car's Battery turns the power on to the unit.

Volume/Treble/Bass/Fader/Balance Controls

1. Press the MODE button ① until your desired mode indicator ② appears in the display. The indicators appear in the following order each time the MODE button ① is pressed : TRE, BAS, FAD and BA
2. While the selected indicator is lit, press the Level Adjustment buttons ⑫ and ⑬ to obtain your desired level. Pressing the −/R/ button ⑬ lowers the level in the volume, treble and bass modes, adjusts the fader from front to rear, and adjusts the balance from rig to left. Pressing the +/F/R button ⑫ raises the level in the volum treble, bass, adjusts the fader from rear to front, and adjusts the balar from left to right. The unit automatically changes to the normal displ from the other modes 5 seconds after an adjustment is made. The Level Adjustment buttons ⑫ and ⑬ work only for the volume adjustm

Mute

Press and hold the MODE button ① for more than 2 seconds to instantly lower the Volume Level to 1/10 (−20dB) of the current leve The volume level indicator ⑤ will blink. To resume the original volume level, press the MODE button ① for a second time. The Level indicato ⑤ will return to the normal display.

CD OPERATION

The following instructions apply only to systems that incorporate the Alpine 5952 CD Changer with the 5954.

Normal Play

1. Press the DISC (▶/■) button ⑨ to activate the CD mode. The Dis Number indicator ④ will show a binking number "1". Then "1 01" appears in the display and the unit will begin playback.

Note: In the CD mode, the Disc and Track Numbers appear in the digi display as shown below.

2. After the last track on the last disc is played back, the optical picku will return to the beginning of the first track of the first disc and beg playback from that point.

Pause

While the disc is playing, press the DISC(▶/■)button ⑨ to temporari stop playback. The PAUSE indicator ⑦ will light. To resume playback, press the DISC (▶/■) button ⑨ again.

FEATURES

SENSOR

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h the music track currently playing to the beginning of the
election and then begins playback. The changer will also
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FORWARD AND REVERSE

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nds, the laser pick-up moves rapidly forward or backward
e button is released.

USE

used to temporarily stop CD play.

PRE-AMP OUTPUTS

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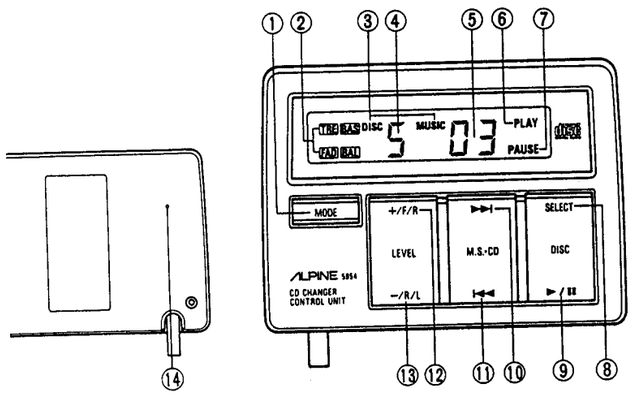
ts and Pre-Amp Fader.

CONTROLS AND INDICATORS



MODE Select/Mute Button
e/BASs/FADer/BALance Indicator
MUSIC Indicator
o./F(Front)/R(Rear)/L(Left)/R(Right) Indicator
No./Volume/Treble/Bass/Fader/Balance Level Indicator
Indicator
: Indicator
Select Button
Play/Pause Button
st Forward/Music Sensor up (▶▶|) Button
verse/Music Sensor down (|◀◀)Button
Adjustment Button (+/F/R)
Adjustment Button (—/R/L)
Switch

OPERATION

BASIC OPERATION

Initial System Setup

When operating the 5954 for the very first time after installation of the unit or replacement of the car battery, press the Reset switch ⑭ on the backpanel of the Controller with a sharp pencil or other pointed object.

Connecting the 5954 with the Car's Battery turns the power on to the unit.

Volume/Treble/Bass/Fader/Balance Controls

1. Press the MODE button ① until your desired mode indicator ② appears in the display. The indicators appear in the following order each time the MODE button ① is pressed : TRE, BAS, FAD and BAL.

2. While the selected indicator is lit, press the Level Adjustment buttons ⑫ and ⑬ to obtain your desired level. Pressing the —/R/L button ⑬ lowers the level in the volume, treble and bass modes, adjusts the fader from front to rear, and adjusts the balance from right to left. Pressing the +/F/R button ⑫ raises the level in the volume, treble, bass, adjusts the fader from rear to front, and adjusts the balance from left to right. The unit automatically changes to the normal display from the other modes 5 seconds after an adjustment is made. The Level Adjustment buttons ⑫ and ⑬ work only for the volume adjustment.

Mute

Press and hold the MODE button ① for more than 2 seconds to instantly lower the Volume Level to 1/10 (—20dB) of the current level. The volume level indicator ⑤ will blink. To resume the original volume level, press the MODE button ① for a second time. The Level indicator ⑤ will return to the normal display.

CD OPERATION

The following instructions apply only to systems that incorporate the Alpine 5952 CD Changer with the 5954.

Normal Play

1. Press the DISC (▶/■■) button ⑨ to activate the CD mode. The Disc Number indicator ④ will show a binking number "1". Then "1 01" appears in the display and the unit will begin playback.

Note: In the CD mode, the Disc and Track Numbers appear in the digital display as shown below.

2. After the last track on the last disc is played back, the optical pickup will return to the beginning of the first track of the first disc and begin playback from that point.

Pause

While the disc is playing, press the DISC(▶/■■)button ⑨ to temporarily stop playback. The PAUSE indicator ⑦ will light. To resume playback, press the DISC (▶/■■) button ⑨ again.

OPERATION

Music Sensor (Skip)

With this feature, you can get to the beginning of the music track of your choice simply and quickly. It is functional in the play or pause mode. The Track Number indicator ⑤ shows the pickup location.

To advance to the next track on the disc, press the MS•CD up button ⑩.

1. Playback stops, the pickup moves up to the beginning of the next track. The Track Number indicator ⑤ shows the number of that track.
2. Playback begins immediately.
3. If you wish to select a track further ahead on the disc, repeatedly press the MS•CD up button ⑩ until you reach the track of your choice.

To replay the track that is currently playing, press the MS•CD down button ⑪.

1. Playback stops, the pickup moves back to the beginning of the current track. The track number display will remain the same.
2. Playback begins immediately from the beginning of the track.
3. If you wish to select a track further behind on the disc, repeatedly press the MS•CD down button ⑪ until you reach the track of your choice.

Disc Access

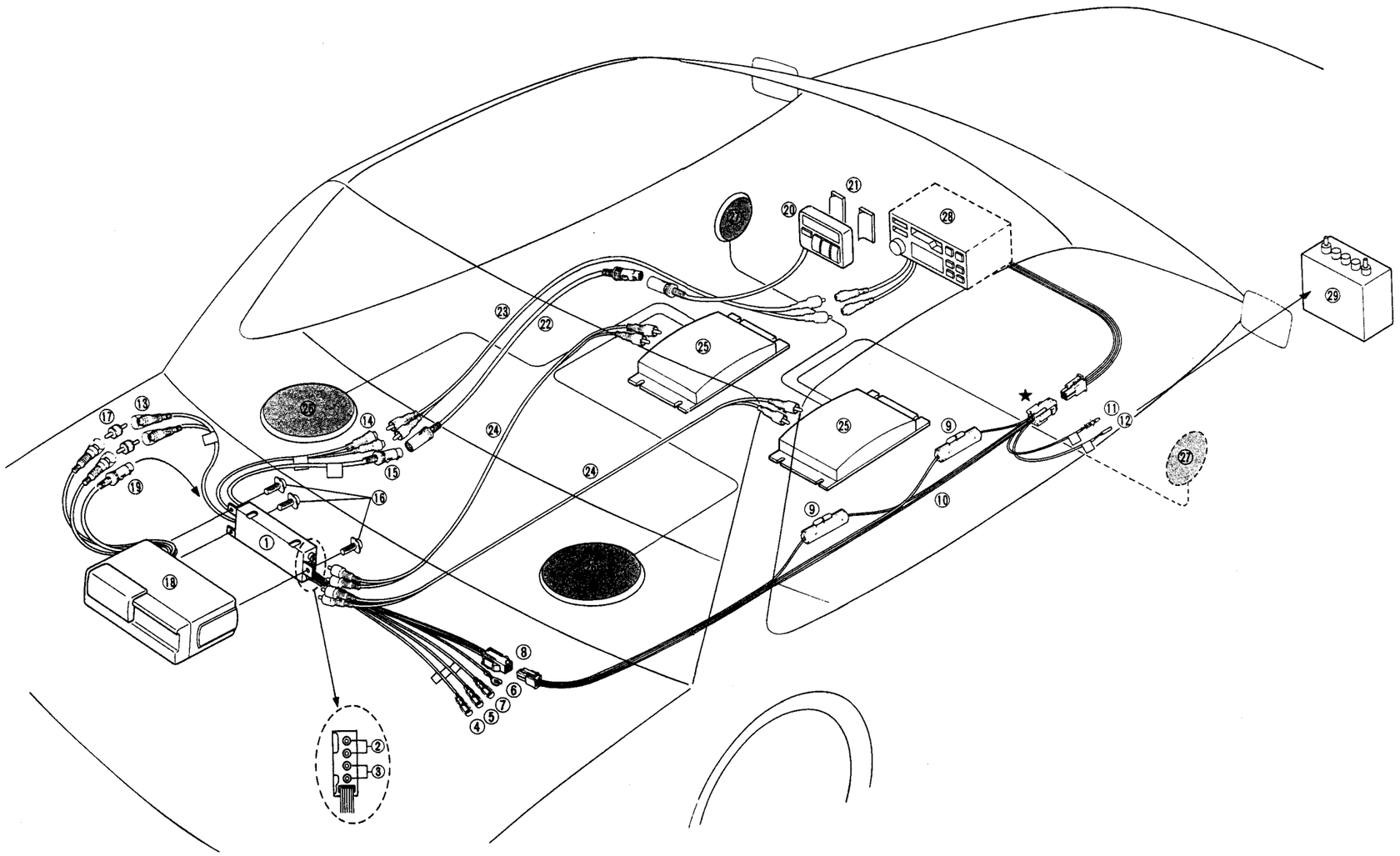
1. Press the Disc Select button ⑧ until your desired disc number appears in the display. The track number will also appear in the display.
2. Press the MS•CD up ⑩ or down ⑪ button for musical track selection.

Fast Forward/Fast Reverse

The audible Fast Forward/Fast Reverse feature works in the play mode. This feature is convenient to access a specific passage within a musical track. Fast Forward/Fast Reverse also works in the Pause mode although it will not be audible.

1. To rapidly move the pickup forward, press the MS•CD up button ⑩ and hold it down for more than 2 seconds.
2. To quickly move the pickup backward, press the MS•CD down button ⑪ and hold it down for more than 2 seconds.
3. Continue holding the up ⑩ or down ⑪ button until you reach the point where you want to resume playback.
4. When the pickup reaches the end of the disc in the Fast Forward mode, the unit will go into the Pause mode. When the pickup reaches the beginning of the disc in the Fast Reverse mode, the unit will begin playback.

CONNECTIONS AND INSTALLATION



5954

5954

CONNECTIONS AND INSTALLATION

①5954 Audio Control Box

②Rear Line Out RCA Connectors (RED is Right and WHITE is Left.)
Connect to the amplifier that drives your rear speakers.

③Front Line Out RCA Connectors (RED is Right and WHITE is Left.)
Connect to the amplifier that drives your front speakers.

④Remote-On Lead (Blue/White)
Connect this lead to the remote-on lead of your amplifier or sig processor.

⑤4320 Control Lead

⑥Ground Lead (Black)
Connect this lead to a good chassis ground on the vehicle. Mal the connection is made to a clean, bare metal spot and is secu fastened using a sheet metal screw.

⑦Audio Mute Lead (Labeled AUDIO INTERRUPT IN) (Pink/White)
Applying +12V to this lead mutes the audio output. This works when connecting the 5954 with a unit equipped with Audio Inter output such as an Alpine Cellular Phone. Removing +12V from lead deactivates the muting circuit.

⑧Power Supply Connector
Connect to the power wiring harness supplied.

⑨Fuse Holders (3A)

⑩Power Wiring Harness (Supplied with 5954)
Use this connector (★) to connect the 5954 Audio Control Box another Alpine head unit. Connect the IGNITION lead (Red) to a terminal on the vehicle's fuse box or another unused power sou which provides +12V only when the ignition is turned on or in t accessory position. Connect the Battery lead (Yellow) to the pc (+) post of the vehicle's battery.

⑪Switched Power Lead (Labeled IGNITION) (Red)

⑫Battery Lead (Yellow)

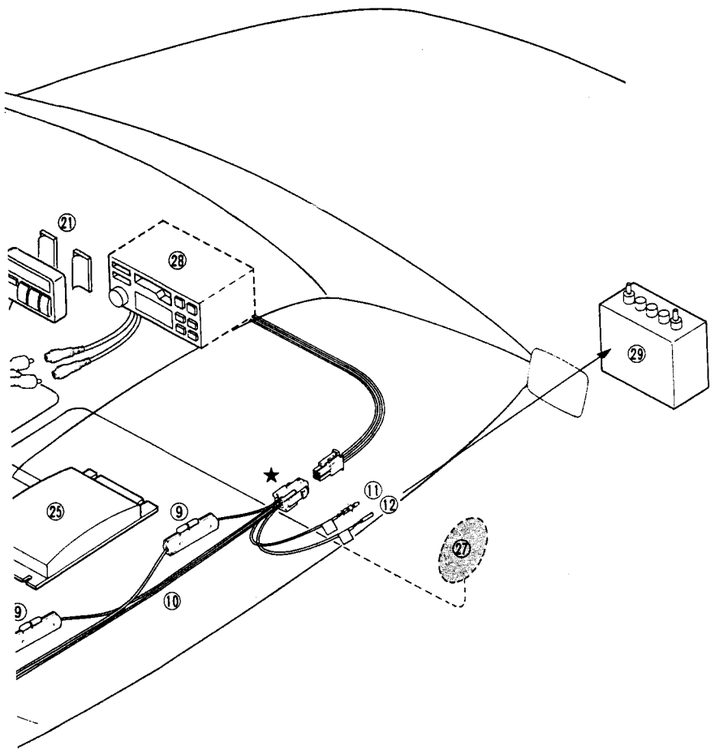
⑬5952 Input RCA Connectors (Labeled "TO CHANGER")
Use these connectors for CD Shuttle input only;RED is Right ar WHITE is Left.

⑭Auxiliary Input RCA Connectors (Labeled "LINE IN")
These connectors are for connecting the Audio Control Box to having RCA output connectors. RED is Right and WHITE is Lef

⑮DIN Connector Lead
Connect this lead to the DIN connector on the 5954 Controller.

⑯Machine Screws with Spring Washers (M3× 4)

⑰MALE TO MALE RCA Adapters (Supplied with 5954)



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Connect to the amplifier that drives your front speakers.

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Connect this lead to the remote-on lead of your amplifier or signal processor.

⑤4320 Control Lead

⑥Ground Lead (Black)
Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to a clean, bare metal spot and is securely fastened using a sheet metal screw.

⑦Audio Mute Lead (Labeled AUDIO INTERRUPT IN) (Pink/White)
Applying +12V to this lead mutes the audio output. This works well when connecting the 5954 with a unit equipped with Audio Interface output such as an Alpine Cellular Phone. Removing +12V from this lead deactivates the muting circuit.

⑧Power Supply Connector
Connect to the power wiring harness supplied.

⑨Fuse Holders (3A)

⑩Power Wiring Harness (Supplied with 5954)
Use this connector (★) to connect the 5954 Audio Control Box and another Alpine head unit. Connect the IGNITION lead (Red) to an open terminal on the vehicle's fuse box or another unused power source which provides +12V only when the ignition is turned on or in the accessory position. Connect the Battery lead (Yellow) to the positive (+) post of the vehicle's battery.

⑪Switched Power Lead (Labeled IGNITION) (Red)

⑫Battery Lead (Yellow)

⑬5952 Input RCA Connectors (Labeled "TO CHANGER")
Use these connectors for CD Shuttle input only;RED is Right and WHITE is Left.

⑭Auxiliary Input RCA Connectors (Labeled "LINE IN")
These connectors are for connecting the Audio Control Box to a unit having RCA output connectors. RED is Right and WHITE is Left.

⑮DIN Connector Lead
Connect this lead to the DIN connector on the 5954 Controller.

⑯Machine Screws with Spring Washers (M3× 4)

⑰MALE TO MALE RCA Adapters (Supplied with 5954)

⑱5952 CD Changer (Sold Separately)

⑲DIN Connector Lead

⑳5954 Control Unit (Controller)

㉑Velcro Tapes (Included)

㉒DIN Extension Cable (Supplied with 5952)
When you wish to mount the 5954 Audio Control Box on the rear panel of the 5952 CD Changer, use the DIN Extension cable supplied with the 5952 CD Changer for the connection.

㉓RCA Extension Cable (Supplied with 5952)

㉔RCA Extension Cable (Option)

㉕Amplifier (Sold Separately)

㉖Rear Speaker (Sold Separately)

㉗Front Speaker (Sold Separately)

THE 5954 CD CHANGER CONTROL UNIT (CONTROLLER) INSTALLATION

● **Velcro™ (Double-side Adhesive) Tapes Mounting**
The Controller can be mounted to any flat spot using the Velcro tapes. Choose a location which allows easy access to operate the Controller.

1. Remove the adhesive protective paper from one side of the Velcro tapes.
2. Attach the exposed adhesive side to the rear side of the 5954 Controller.

Note: The tape should be attached to a place where the reset switch and the caution label are not located.

3. Select a secure and flat spot for mounting. Make sure the mounting location is clean and dry.
4. Remove the protective paper from the other side of the Velcro tapes.
5. Press the 5954 Controller to its mounting location.
6. Connect the DIN connector of the 5954 Controller to the 5954 Audio Control Box.

THE 5954 AUDIO CONTROL BOX INSTALLATION

This Audio Control Box can be mounted to the rear panel of the 5952 CD Changer that is installed in a horizontal position only.

Using 3 machine screws (supplied with the 5954), securely mount the Audio Control Box to the rear panel of the 5952 CD Changer.

The Audio Control Box can also be mounted in other locations using three sheet metal screws or Velcro tape in the same manner as described in the Velcro Tapes Mounting section above.

Disassembly Instructions

<AUDIO CONTROL BOX>

1. **Removal of Audio P. C. Board**
   (1) After removal of the bottom cover, remove the solder (A) and five screws marked "×" as shown in Figure 1.
   (2) Remove three hooks (A) as shown in Figure 1.
   (3) Disconnect all wires from the Audio P. C. Board.

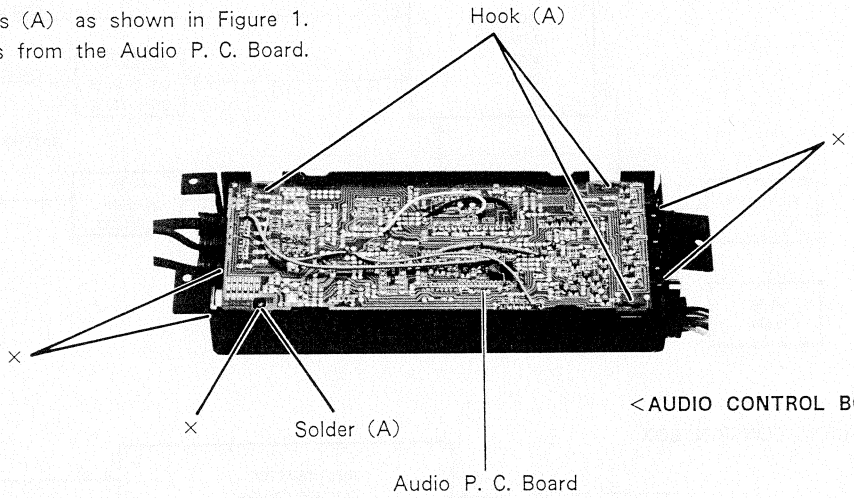
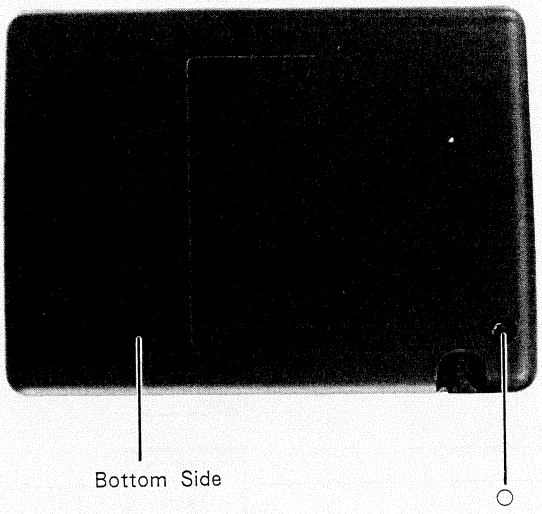


Figure 1

<CONTROLLER>

2. **Removal of Nosepiece.**
   (1) Remove one screw marked "○" as shown in Figure 2.
   (2) Remove five hooks (B) as shown in Figure 3.

3. **Removal of Control P. C. Board**
   (1) After removal of Nosepiece, remove three screws marked "△" as shown in Figure 3.



Fidure 2

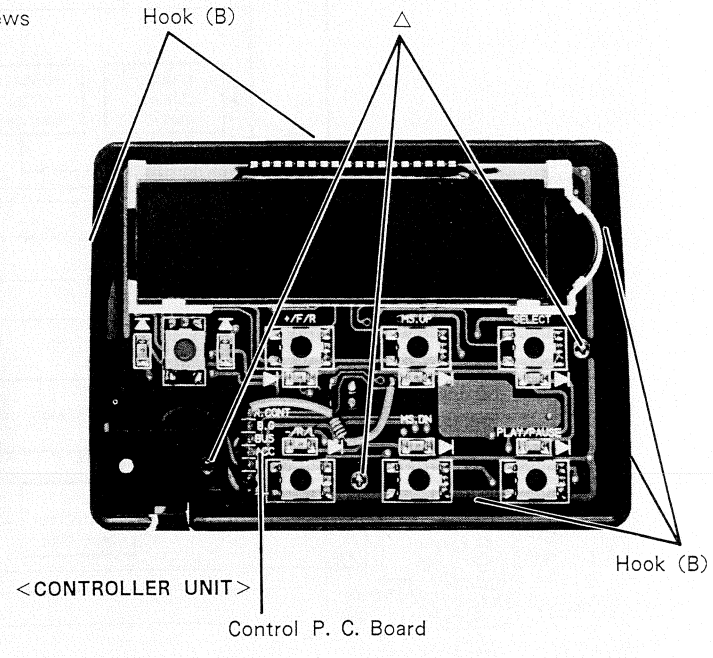
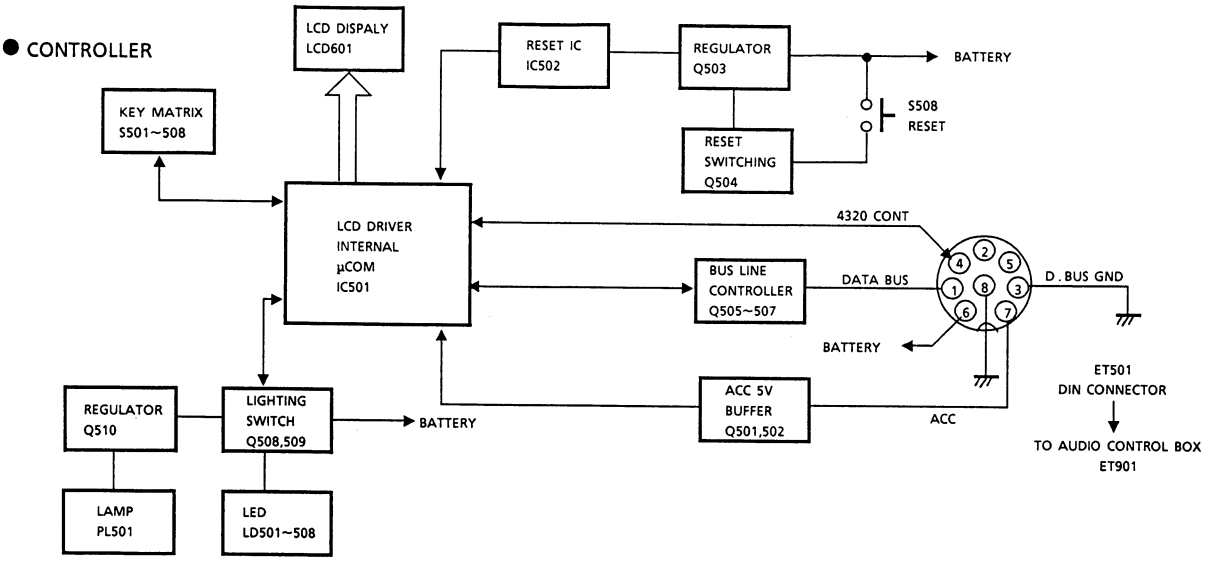


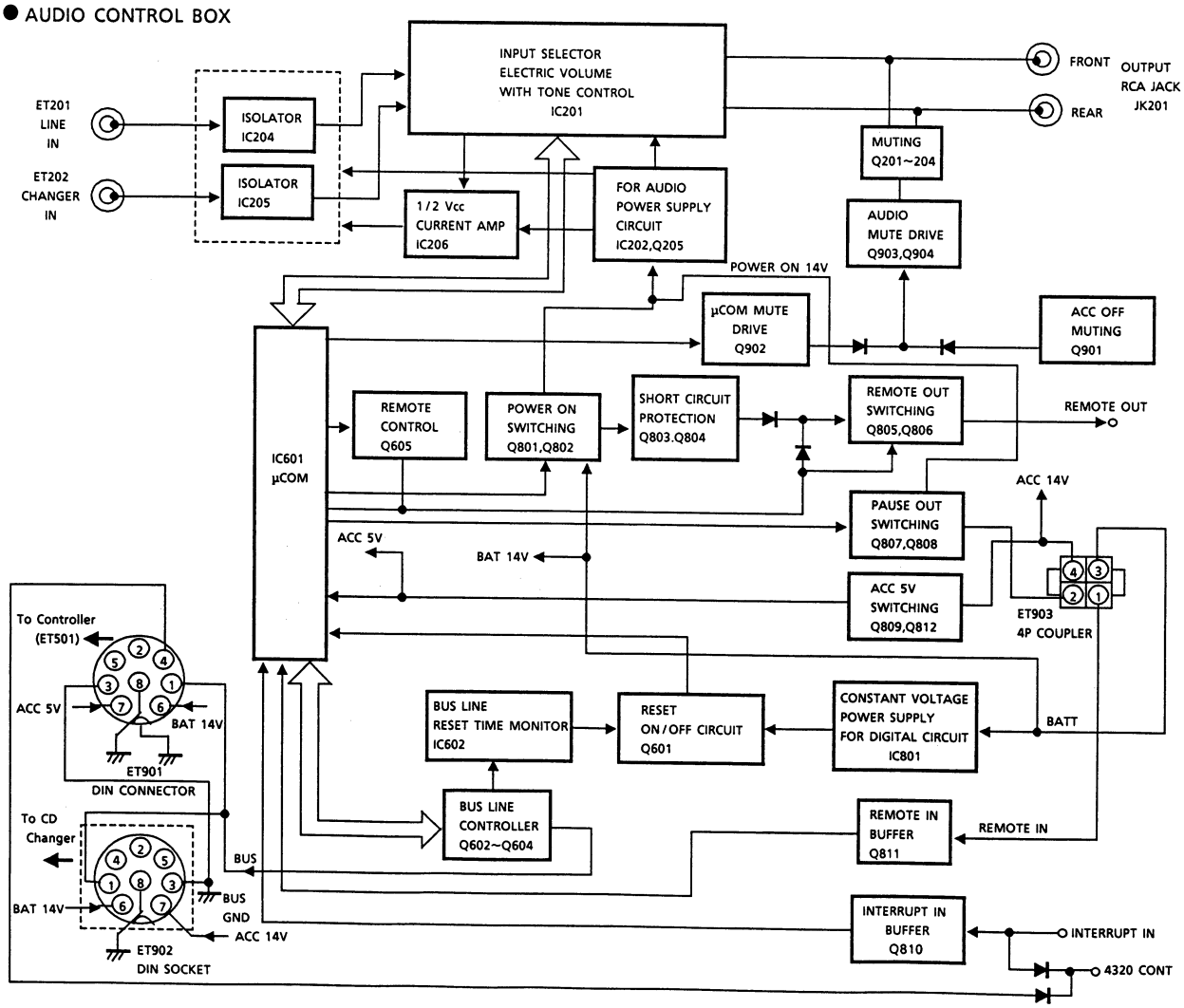
Figure 3

Block Diagram

● CONTROLLER



● AUDIO CONTROL BOX



Schematic Diagram

IC	IC204 IC205	IC601	IC206	IC201	IC202		IC602					Q901			Q902		IC801			
Transistor (Q)			Q605			Q205	Q203 Q201	Q202 Q204	Q801 Q802	Q803 Q804	Q601 Q602		Q805 Q806	Q604 Q603	Q808 Q807		Q809 Q812		Q810	Q903 Q811	Q904

Audio P. C. Board

ET201 AUX INPUT RCA CONNECTOR
L CH
LINE IN
R CH
CB201
E205 10/16
E206 10/16
E207 10/16
R209 10K
R210 10K
R211 10K
R212 10K
R213 10K
R214 10K
R215 10K
R216 10K
E221 10/16
IC204,205 BA4560
LINE IN ISOLATOR

ET202 5952 INPUT RCA CONNECTOR
L CH
CD CHANGER
R CH
CB202
E209 10/16
E210 10/16
E211 10/16
R217 10K
R218 10K
R219 10K
R220 10K
R221 10K
R222 10K
R223 10K
R224 10K
R249 1K
R250 1K
R251 1K
R252 1K
IC205
CHANGER IN ISOLATOR

C205 0.68
C203 0.033
C201 5600P
IC201 TEA6300
FADER MUTE
SOURCE SELECTOR
VOLUME BALANCE
BASS LOUDNESS
TREBLE LOUDNESS
Vref
POWER SUPPLY
I²C BUS LOGIC
C206 0.68
C204 0.033
C202 5600P
INPUT SELECTOR, TONE CONTROLLER & ELECTRIC VOLUME
E213 22/10
E214 22/6.3
E212 47/10
(LC) (RC) (CL) (SDA)

IC206 BA4560
1/2 Vcc (AUDIO)
E220 10/16
E219 100/10
C207 0.1
R225 27K
R227 15K
R226 4.7K

IC202 M5236L
V. REGULATOR (AUDIO)
Q205 2SB911M
R228 220-1/4
ASO PROTECTOR
START CIRCUIT
OVER CURRENT PROTECTOR
ERROR AMP
REF, VOLT GENERATOR
(Vcc) (SDA) (CL) (A. MUTE)

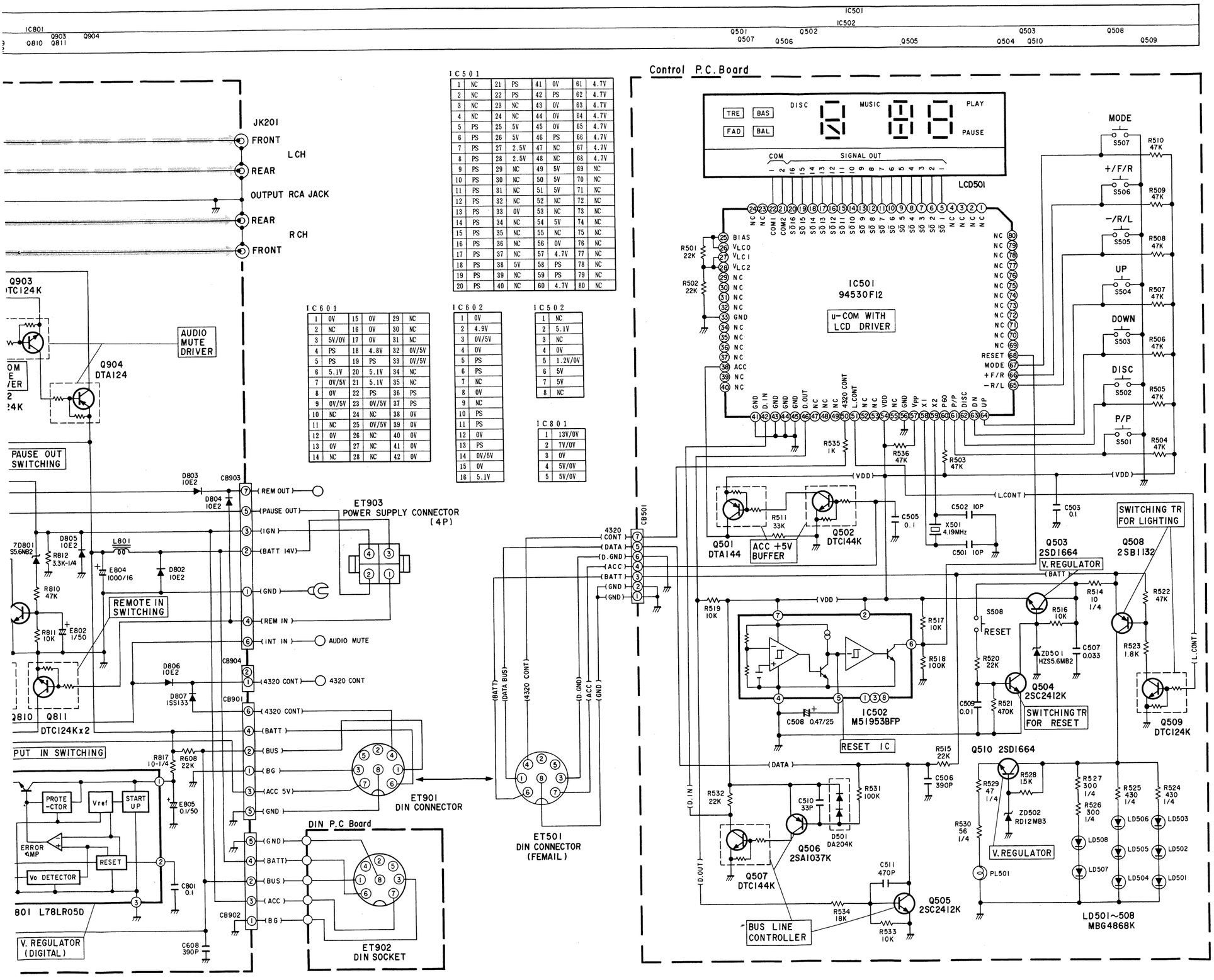
Q201~204 DTC343T
AUDIO MUTING
E217 10/16
E215 10/16
E216 10/16
E218 10/16
R231 220-1/8
R235 100-1/8
R239 10K-1/8
R237 10K-1/8
R229 220-1/8
R233 100-1/8
R234 100-1/8
R230 220-1/8
R238 10K-1/8
R240 10K-1/8
R232 220-1/8
R236 100-1/8
Q203
Q201
Q202
Q204
(LF) (LR) (G) (RR) (RF) (MUTE)
ACC OFF MUTING
Q901 2SA1037
Q903 DTC124K
R902 220K
E901 10/16
ZD901 HZS 10NB2
E902 10/16
E903 2.2/50
R901 2.2K
R903 10K
D902 1SS133
D903 1SS83
D901 DAN202K
R904 10K
μ-COM MUTE DRIVER
Q902 DTC124K
Q904 DTA124
AUDIO MUTE DRIVER
(A.MUTE) (ACC 14V) (BAT 14V)

Q801 2SB911M
SWITCHING TR FOR POWER ON
SHORT-CIRCUIT PROTECTION
REMOTE OUT SWITCHING
PAUSE OUT SWITCHING
R806 10K-1/8
R802 1K-1/4
Q802 DTC124K
R803 8.2-1/4
R804 8.2-1/4
R818 10K
R807 2.2K-1/8
Q805 2SB911M
R801 10K
R808 2.2K-1/8
Q803 2SA1037K
D801 DA204K
R805 10K
Q806 DTC124K
Q808 DTA124
R809 2.2K-1/8
Q807 DTC124K
Q809 DTA114K
ACC +5V SWITCH -ING
Q812 2SC2412K
R810 47K
R811 10K
E802 1/50
D805 10E2
R812 3.3K-1/4
L801
E804 1000/16
D802 10E2
REMOTE IN SWITCHING
D803 10E2
D804 10E2
CB903
CB904
CB902
CB901
R610 47K
R609 47K
E801 10/16
Q804 DTC124K
D806 10E2
D807 1SS133
Q810
Q811
DTC124Kx2
R815 100K -1/8
R816 100K -1/8
INTERRUPUT IN SWITCHING

D603 1SS133
D604 DAN202U
(A. MUTE) (PWP ON)
(VDD) (ACC 5V) (REM ON) (PUS OUT) (INT IN) (REM IN)
(AUX) (SDA) (CL)
Vss NC RESET XI X2 INT IN PUS OUT REM IN REM OUT NC NC Vss Vss NC Vss Vss Vss Vss ACC 5V BUS IN VDD VDD
Vss Vss Vss Vss Vss DI CL NC NC A.MUTE PWR ON NC NC NC NC NC NC CD TUNER AUX BUS OUT
R611 10K
R612 10K
E601 100/6.3
C602 22P
X601 4.194304 MHz
C601 22P
C609 0.01
IC601 15553W01
μ-COM
Q605 DTC124EL
TR FOR REMOTE CONTROL
(RESET)

IC602 μPD4538BC
R602 470K
C605 0.1
R603 1M
C604 100P
VDD T12 T22 CD2 A2 B2 Q2 Q2
T11 T21 CD1 A1 B1 Q1 Q1 Vss
C603 0.1
R601 330K
D601 DAN 202K
(DATA IN)
BUS RESET DRIVER
Q601 DTC124K
C606 470P
R605 10K
R604 18K
Q602 2SC2412K
RESET DRIVER
Q604 2SA1037K
D602 DA204K
C607 33P
R606 22K
R607 100K
C812 0.01
Q603 DTC144K
BUS LINE CONTROLLER

IC801 L78LR05D
PROTE -CTOR
Vref
START UP
ERROR AMP
RESET
Vo DETECTOR
R817 10-1/4
R608 22K
E805 0.1/50
C801 0.1
C608 390P
V. REGULATOR (DIGITAL)



	E	C	B
Q201	0V/0.02V	0V	13V/0V
Q202	0V/0.02V	0V	13V/0V
Q203	0V/0.02V	0V	13V/0V
Q204	0V/0.02V	0V	13V/0V
Q205	13.8V	8.4V	13.1V
Q501	5V	5V/0V	0V/4.5V
Q502	0V	0V/4.5V	5V/0V
Q503	5V	13V	5.5V
Q504	0V	5V	0V
Q505	0V	PS	PS
Q506	5V	PS	PS
Q507	0V	PS	PS
Q508	13.9V	13.7V/0V	13.1V/13.6V
Q509	0V	0V/13V	5V/0V
Q510	12V/0V	13V/0V	12V/0V
Q601	0V	5V/0V	0V/5V
Q602	0V	PS	PS
Q603	0V	PS	PS
Q604	0V	PS	PS
Q605	0V	0V/3.5V	0V/5V
Q801	13.8V	13.8V/2.3V	13V/13.8V
Q802	0V	0V/13.8V	5.1V/0V
Q803	13.9V/0V	0V	13.7V/0V
Q804	0V	13.2V	0V
Q805	13.8V	13.8V	13.1V
Q806	0V	0V	3.5V
Q807	0V	0V/13V	5V/0V
Q808	13.8V	13.8V/0V	0V
Q809	5V	5V/0V	0V/5V
Q810	0V	4.9V/0V	0V/5V
Q811	0V	4.9V	0V
Q812	0V	0V/5V	0.6V/0V
Q901	10.2V/1.6V	8.9V/1.6V	9.7V/1.1V
Q902	0V	10.2V/0V	0V
Q903	0V	13V/0V	0V/8V
Q904	13V/0V	0V/13V	13V

IC501

1	NC	21	PS	41	0V	61	4.7V
2	NC	22	PS	42	PS	62	4.7V
3	NC	23	NC	43	0V	63	4.7V
4	NC	24	NC	44	0V	64	4.7V
5	PS	25	5V	45	0V	65	4.7V
6	PS	26	5V	46	PS	66	4.7V
7	PS	27	2.5V	47	NC	67	4.7V
8	PS	28	2.5V	48	NC	68	4.7V
9	PS	29	NC	49	5V	69	NC
10	PS	30	NC	50	5V	70	NC
11	PS	31	NC	51	5V	71	NC
12	PS	32	NC	52	NC	72	NC
13	PS	33	0V	53	NC	73	NC
14	PS	34	NC	54	5V	74	NC
15	PS	35	NC	55	NC	75	NC
16	PS	36	NC	56	0V	76	NC
17	PS	37	NC	57	4.7V	77	NC
18	PS	38	5V	58	PS	78	NC
19	PS	39	NC	59	PS	79	NC
20	PS	40	NC	60	4.7V	80	NC

IC601

1	0V	15	0V	29	NC
2	NC	16	0V	30	NC
3	5V/0V	17	0V	31	NC
4	PS	18	4.8V	32	0V/5V
5	PS	19	PS	33	0V/5V
6	5.1V	20	5.1V	34	NC
7	0V/5V	21	5.1V	35	NC
8	0V	22	PS	36	PS
9	0V/5V	23	0V/5V	37	PS
10	NC	24	NC	38	0V
11	NC	25	0V/5V	39	0V
12	0V	26	NC	40	0V
13	0V	27	NC	41	0V
14	NC	28	NC	42	0V

IC602

1	0V
2	4.9V
3	0V/5V
4	0V
5	PS
6	PS
7	NC
8	0V
9	NC
10	PS
11	PS
12	0V
13	PS
14	0V/5V
15	0V
16	5.1V

IC502

1	NC
2	5.1V
3	NC
4	0V
5	1.2V/0V
6	5V
7	5V
8	NC

IC801

1	13V/0V
2	7V/0V
3	0V
4	5V/0V
5	5V/0V

IC201

1	5.1V	15	4.2V
2	0V	16	4.2V
3	4.2V	17	4.2V
4	4.2V	18	0V
5	4.2V	19	4.2V
6	4.2V	20	4.2V
7	4.2V	21	4.2V
8	4.2V	22	4.2V
9	7.8V	23	4.2V
10	4.2V	24	4.2V
11	8.3V	25	4.2V
12	4.2V	26	4.2V
13	4.2V	27	8.4V
14	4.2V	28	0V

IC202

1	13.1V
2	0V
3	1.3V

IC204

1	4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	4.2V
8	8.4V

IC205

1	4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	4.2V
8	8.4V

IC206

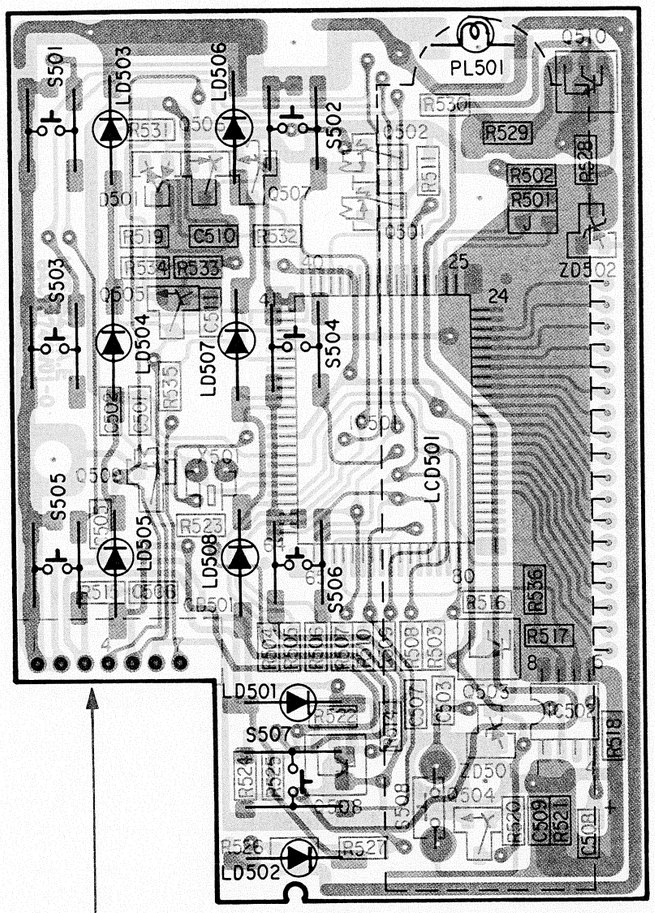
1	4.2V
2	4.2V
3	4.2V
4	0V
5	NC
6	NC
7	NC
8	8.4V

[Measuring Conditions]
- Power Supply Voltage : DC14V
- Measuring Meter : Oscilloscope
  Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : No Signal Input

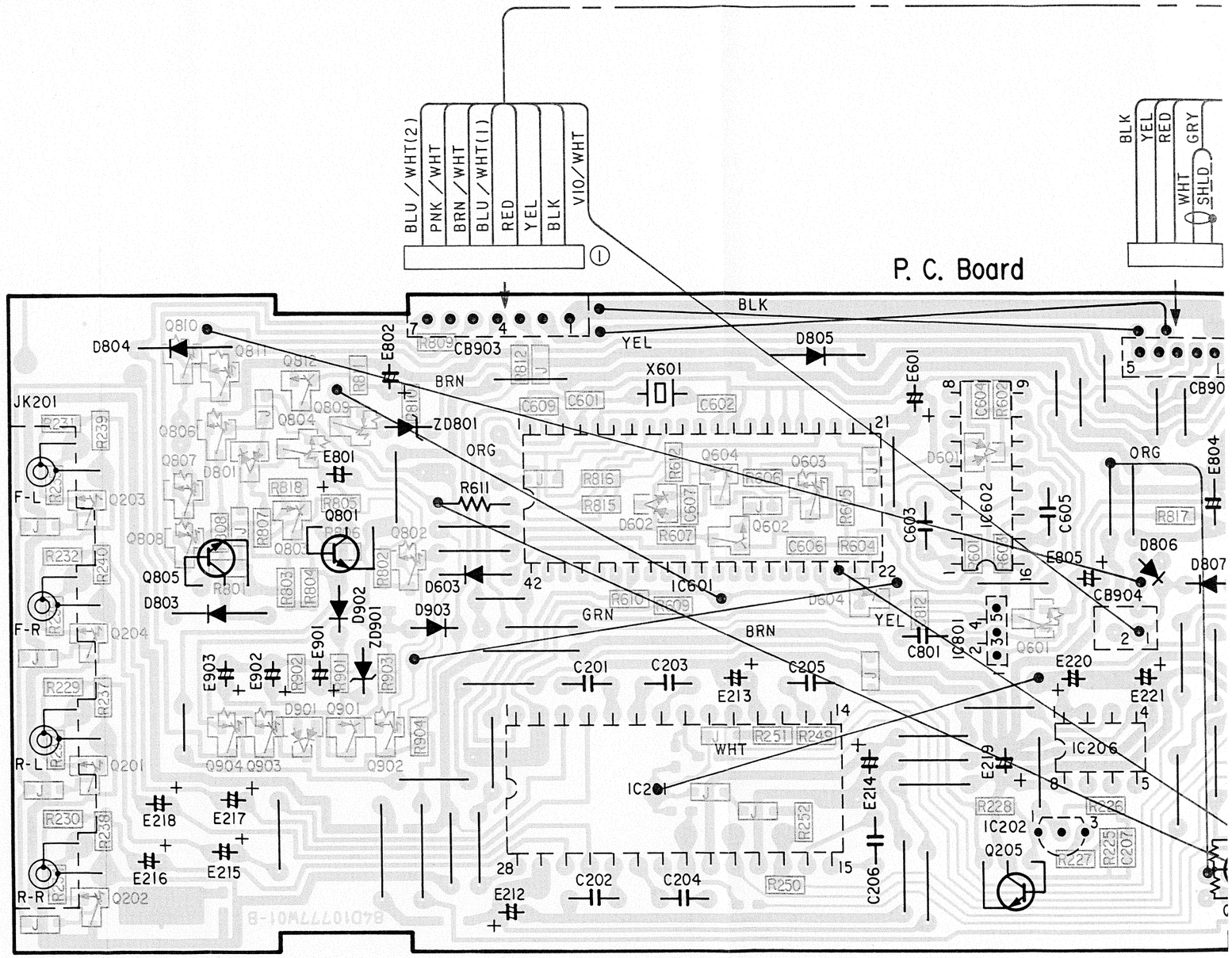
NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

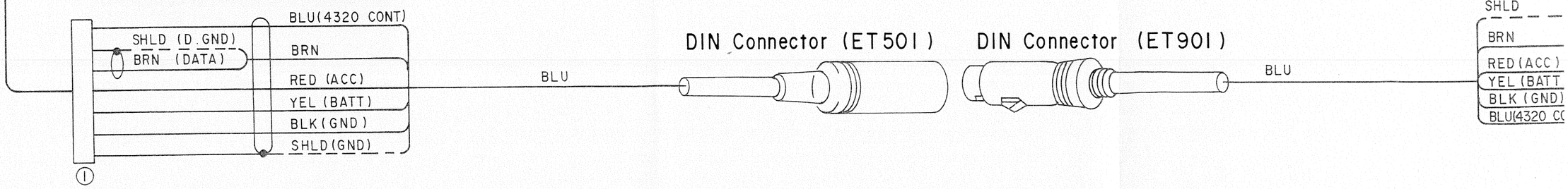
Parts Layout on P.C. Boards and Wiring Diagram

Control P. C. Board

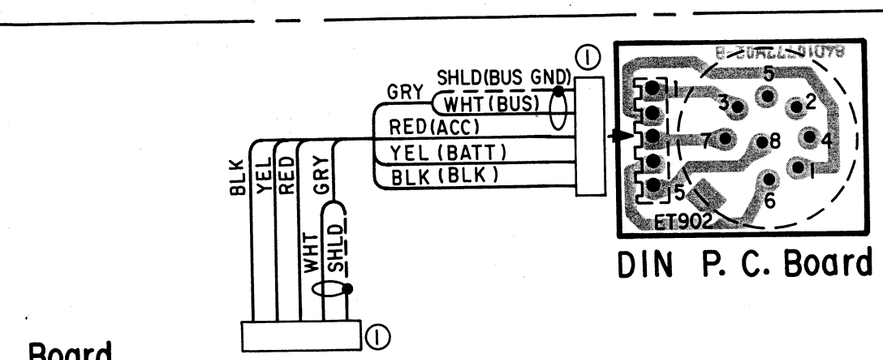


P. C. Board



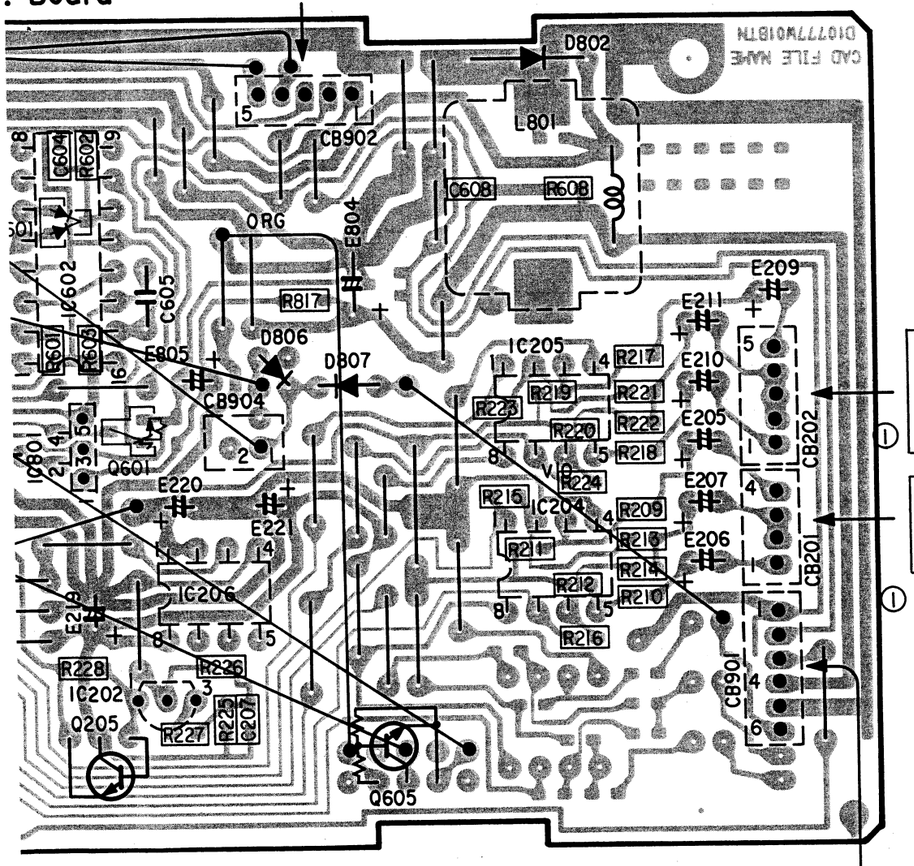


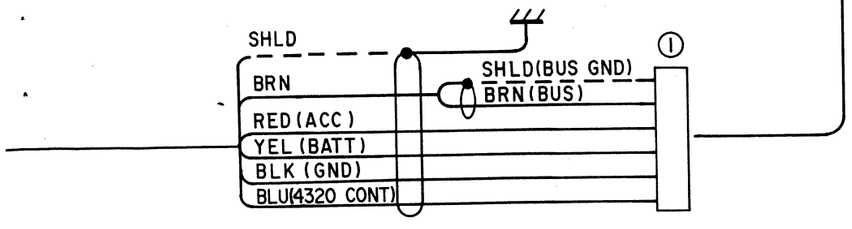
5954	5954

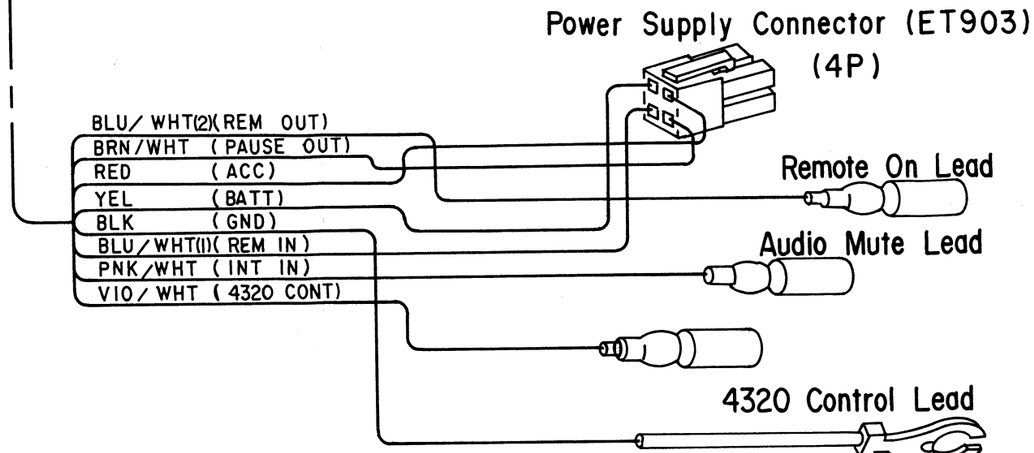


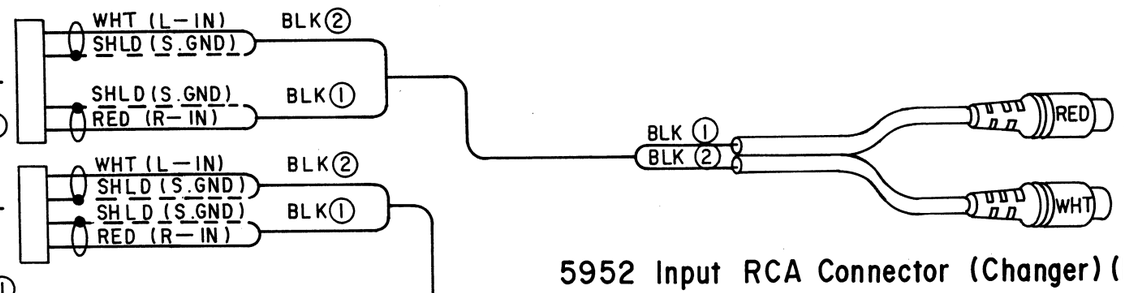
DIN P. C. Board

. Board

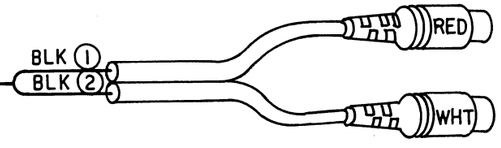








5952 Input RCA Connector (Changer)(ET202)



Auxiliary Input RCA Connector (Line In)(ET201)

BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
PNK	Pink
VIO	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
uF = microfarads, pF = picofarads

Abbreviations

RES. = Resistor	CAP. = Capacitor
C.F. = Carbon Film	ELY. = Electrolytic
M.F. = Metal Film	CER. = Ceramic
M.O. = Metal Oxide Film	MYL. = Mylar
M.P. = Metal Plate	TAN. = Tantalum
TR. = Transistor	POLY. = Polystyrol
TRANS. = Transformer	PP. = Polypropylene
CP. = Chip	PLT. = Polyethylene

Symbol No.	Part No.	Description		
Audio P. C. Board				
IC's				
IC201	51T83607F01	TEA6300		
IC202	51T93222F01	M5236L		
IC204	51T15001W01	BA4560		
IC205	51T15001W01	BA4560		
IC206	51T15001W01	BA4560		
IC601	51T15553W01	15553W01		
or	51T15609W01	15609W01		
IC602	51T72301F01	μ PD4538BC		
IC801	51T15268W13	L78LR05D		
Transistors				
Q201	48T62967F33	CP., DTC343T		
Q202	48T62967F33	CP., DTC343T		
Q203	48T62967F33	CP., DTC343T		
Q204	48T62967F33	CP., DTC343T		
Q205	48T70213F01	2SB911M		
Q601	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q602	48T63417F01	CP., 2SC2412K		
or	48T52438F01	CP., 2SD601A		
Q603	48T62967F04	CP., DTC144K		
or	48T64222F03	CP., UN2213		
Q604	48T63420F01	CP., 2SA1037K		
or	48T52437F01	CP., 2SB709A		
Q605	48T82763F03	DTC124EL		
Q801	48T70213F01	2SB911M		
Q802	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q803	48T63420F01	CP., 2SA1037K		
or	48T52437F01	CP., 2SB709A		
Q804	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q805	48T70213F01	2SB911M		
Q806	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q807	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q808	48T62966F03	CP., DTA124		
or	48T64221F02	CP., UN2112		
Q809	48T62966F02	CP., DTA114		
or	48T64221F01	CP., UN2111		
Q810	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q811	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q812	48T63417F01	CP., 2SC2412K		
or	48T52438F01	CP., 2SD601A		
Q901	48T63420F01	CP., 2SA1037K		
or	48T52437F01	CP., 2SB709A		
Q902	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q903	48T62967F03	CP., DTC124K		
or	48T64222F02	CP., UN2212		
Q904	48T62966F03	CP., DTA124		
or	48T64221F02	CP., UN2112		
Diodes				
D601	48T63462F01	CP., DAN202K		
or	48T52446F01	CP., MA151WK		
D602	48T64134F01	CP., DA204K		
or	48T94335F01	CP., MA153		
D603	48T68828F01	1SS133		
or	48T44813F01	MA165TA		
D604	48T94608F03	CP., DAN202U		
D801	48T64134F01	CP., DA204K		
or	48T94335F01	CP., MA153		
D802	48C40235G02	10E2		
D803	48C40235G02	10E2		
D804	48C40235G02	10E2		
D805	48C40235G02	10E2		
D806	48C40235G02	10E2		
D807	48T68828F01	1SS133		
or	48T44813F01	MA165TA		
or	48T16368W01	1SS254		
D901	48T63462F01	CP., DAN202K		
or	48T52446F01	CP., MA151WK		
D902	48T68828F01	1SS133		
or	48T44813F01	MA165TA		
or	48T16368W01	1SS254		
D903	48T74541F01	1SS83		
ZD801	48T90517F27	Zener, HZS5.6NB2		
ZD901	48T90517F45	Zener, HZS10NB2		
Coil/Crystal				
L801	25C40894G10	Choke, Filter		
X601	48T84203F01	Crystal, 4.194304MHz		

Symbol No.	Part No.	Description		
Capacitors				
C201	08T57705F14	MYL., 5600pF		
C202	08T57705F14	MYL., 5600pF		
C203	08T57705F23	MYL., 0.033 μ F		
C204	08T57705F23	MYL., 0.033 μ F		
E205	23S61523F12	ELY., 10 μ F/16V		
C205	08T90316F39	TF, 0.68 μ F		
E206	23S61523F12	ELY., 10 μ F/16V		
C206	08T90316F39	TF, 0.68 μ F		
E207	23S61523F12	ELY., 10 μ F/16V		
C207	08S65128F76	CP., 0.1 μ F		
E209	23S61523F12	ELY., 10 μ F/16V		
E210	23S61523F12	ELY., 10 μ F/16V		
E211	23S61523F12	ELY., 10 μ F/16V		
E212	23S61523F11	ELY., 47 μ F/10V		
E213	23S61523F09	ELY., 22 μ F/10V		
E214	23S61523F05	ELY., 22 μ F/6.3V		
E215	23S61524F13	ELY., 10 μ F/16V		
E216	23S61524F13	ELY., 10 μ F/16V		
E217	23S61524F13	ELY., 10 μ F/16V		
E218	23S61524F13	ELY., 10 μ F/16V		
E219	23S61523F34	ELY., 100 μ F/10V		
E220	23S61524F13	ELY., 10 μ F/16V		
E221	23S61524F13	ELY., 10 μ F/16V		
E601	23S61524F08	ELY., 100 μ F/6.3V		
C601	08S65128F19	CP., 22pF		
C602	08S65128F19	CP., 22pF		
C603	08T57705F29	MYL., 0.1 μ F		
C604	08S65128F35	CP., 100pF		
C605	08T57705F29	MYL., 0.1 μ F		
C606	08S65128F51	CP., 470pF		
C607	08S65128F23	CP., 33pF		
C608	08S65128F49	CP., 390pF		
C609	08S65128F69	CP., 0.01 μ F		
E801	23S61524F13	ELY., 10 μ F/16V		
C801	08T57705F29	MYL., 0.1 μ F		
E802	23S61524F32	ELY., 1 μ F/50V		
E804	23C42170G36	ELY., 1000 μ F/16V		
E805	23S61523F25	ELY., 0.1 μ F/50V		
C812	08S65128F69	CP., 0.01 μ F		
E901	23S61524F13	ELY., 10 μ F/16V		
E902	23S61524F13	ELY., 10 μ F/16V		
E903	23S61524F33	ELY., 2.2 μ F/50V		
Resistors (All resistors are chip 1/16W±5% unless otherwise noted.)				
R209	06S64995F77	10k ohm		
R210	06S64995F77	10k ohm		
R211	06S64995F77	10k ohm		
R212	06S64995F77	10k ohm		
R213	06S64995F77	10k ohm		

Symbol No.	Part No.	Description		
R214	06S64995F77	10k ohm		
R215	06S64995F77	10k ohm		
R216	06S64995F77	10k ohm		
R217	06S64995F77	10k ohm		
R218	06S64995F77	10k ohm		
R219	06S64995F77	10k ohm		
R220	06S64995F77	10k ohm		
R221	06S64995F77	10k ohm		
R222	06S64995F77	10k ohm		
R223	06S64995F77	10k ohm		
R224	06S64995F77	10k ohm		
R225	06S64995F87	27k ohm		
R226	06S64995F69	4.7k ohm		
R227	06S64995F81	15k ohm		
R228	06T70072F37	220 ohm1/4W		
R229	06S53330F37	220 ohm1/8W		
R230	06S53330F37	220 ohm1/8W		
R231	06S53330F37	220 ohm1/8W		
R232	06S53330F37	220 ohm1/8W		
R233	06S53330F29	100 ohm1/8W		
R234	06S53330F29	100 ohm1/8W		
R235	06S53330F29	100 ohm1/8W		
R236	06S53330F29	100 ohm1/8W		
R237	06S53330F77	10k ohm1/8W		
R238	06S53330F77	10k ohm1/8W		
R239	06S53330F77	10k ohm1/8W		
R240	06S53330F77	10k ohm1/8W		
R249	06S64995F53	1k ohm		
R250	06S64995F53	1k ohm		
R251	06S64995F53	1k ohm		
R252	06S64995F53	1k ohm		
R601	06S64996F14	330k ohm		
R602	06S64996F18	470k ohm		
R603	06S64996F26	1M ohm		
R604	06S64995F83	18k ohm		
R605	06S64995F77	10k ohm		
R606	06S64995F85	22k ohm		
R607	06S64996F02	100k ohm		
R608	06S64995F85	22k ohm		
R609	06S64995F93	47k ohm		
R610	06S64995F93	47k ohm		
R612	06S64995F77	10k ohm		
R801	06S64995F77	10k ohm		
R802	06T70072F53	1k ohm1/4W		
R803	06T70072F04	8.2 ohm1/4W		
R804	06T70072F04	8.2 ohm1/4W		
R805	06S64995F77	10k ohm		
R806	06S53330F77	10k ohm1/8W		
R807	06S53330F61	2.2k ohm1/8W		
R808	06S53330F61	2.2k ohm1/8W		

Symbol No.	Part No.	Description		
R809	06S53330F61	2.2k ohm1/8W		
R810	06S64995F93	47k ohm		
R811	06S64995F77	10k ohm		
R812	06T70072F65	3.3k ohm1/4W		
R815	06S53331F02	100k ohm1/8W		
R816	06S53331F02	100k ohm1/8W		
R817	06T70072F05	10 ohm1/4W		
R818	06S64995F77	10k ohm		
R901	06S64995F61	2.2k ohm		
R902	06S64996F10	220k ohm		
R903	06S64995F77	10k ohm		
R904	06S64995F77	10k ohm		
Control P. C. Board				
IC's				
IC501	51T94530F12	94530F12		
IC502	51T74156F02	M51953B FP		
Transistors				
Q501	48T62966F04	CP., DTA144		
Q502	48T62967F04	CP., DTC144K		
Q503	48T80614F01	CP., 2SD1664		
Q504	48T63417F01	CP., 2SC2412K		
Q505	48T63417F01	CP., 2SC2412K		
Q506	48T63420F01	CP., 2SA1037K		
Q507	48T62967F04	CP., DTC144K		
Q508	48T80611F01	CP., 2SB1132		
Q509	48T62967F03	CP., DTC124K		
Q510	48T80614F01	CP., 2SD1664		
Diodes				
D501	48T64134F01	CP., DA204K		
ZD501	48T62934F22	Zener, CP., HZS5.6MB2		
ZD502	48T62934F47	Zener, CP., RD12MB3		
LEDs				
LD501	48T15700W04	MBG4868K (GRN)		
LD502	48T15700W04	MBG4868K (GRN)		
LD503	48T15700W04	MBG4868K (GRN)		
LD504	48T15700W04	MBG4868K (GRN)		
LD505	48T15700W04	MBG4868K (GRN)		
LD506	48T15700W04	MBG4868K (GRN)		
LD507	48T15700W04	MBG4868K (GRN)		
LD508	48T15700W04	MBG4868K (GRN)		

Symbol No.	Part No.	Description		
Switches				
S501	40T25055W01	Tact SKHUPF (P/P)		
S502	40T25055W01	Tact SKHUPF (DISC)		
S503	40T25055W01	Tact SKHUPF (DN)		
S504	40T25055W01	Tact SKHUPF (UP)		
S505	40T25055W01	Tact SKHUPF (−/R/L)		
S506	40T25055W01	Tact SKHUPF (+/F/R)		
S507	40T25056W01	Tact SKHMPU (MODE)		
S508	40T10876W02	Tact SKHLAJ (RESET)		
Lamp/Crystal				
PL501	65B43447J01	Lamp, Pilot 6V−65mA		
X501	48T25079W01	Crystal, 4.19MHz		
Capacitors				
C501	08S65128F12	CP., 10pF		
C502	08S65128F12	CP., 10pF		
C503	08T15807W05	CP., 0.1 μ F		
C505	08T15807W05	CP., 0.1 μ F		
C506	08S65128F49	CP., 390pF		
C507	08T15399W02	CP., 0.033 μ F		
C508	23T74181F07	CP., T. T 0.47 μ F/25V		
C509	08S65128F69	CP., 0.01 μ F		
C510	08S65128F23	CP., 33pF		
C511	08S65128F51	CP., 470pF		
Resistors (All resistors are chip 1/16W±5% unless otherwise noted.)				
R501	06S64995F85	22k ohm		
R502	06S64995F85	22k ohm		
R503	06S64995F93	47k ohm		
R504	06S64995F93	47k ohm		
R505	06S64995F93	47k ohm		
R506	06S64995F93	47k ohm		
R507	06S64995F93	47k ohm		
R508	06S64995F93	47k ohm		
R509	06S64995F93	47k ohm		
R510	06S64995F93	47k ohm		

Symbol No.	Part No.	Description		
R511	06S64995F89	33k ohm		
R514	06T70072F05	10 ohm1/4W		
R515	06S64995F85	22k ohm		
R516	06S64995F77	10k ohm		
R517	06S64995F77	10k ohm		
R518	06S64996F02	100k ohm		
R519	06S64995F77	10k ohm		
R520	06S64995F85	22k ohm		
R521	06S64996F18	470k ohm		
R522	06S64995F93	47k ohm		
R523	06S64995F59	1.8k ohm		
R524	06T70072F44	430 ohm1/4W		
R525	06T70072F44	430 ohm1/4W		
R526	06T70072F40	300 ohm1/4W		
R527	06T70072F40	300 ohm1/4W		
R528	06S64995F57	1.5k ohm		
R529	06T70072F21	47 ohm1/4W		
R530	06T70072F23	56 ohm1/4W		
R531	06S64996F02	100k ohm		
R532	06S64995F85	22k ohm		
R533	06S64995F77	10k ohm		
R534	06S64995F83	18k ohm		
R535	06S64995F53	1k ohm		
R536	06S64995F93	47k ohm		
		Miscellaneous		
ET201	01T15874W01	Auxiliary, Input RCA Connector (Line in)		
ET202	01T15873W01	5952 Input RCA Connector (Changer)		
ET501	01T25074W01	DIN Connector		
ET901	01T15876W02	DIN Connector		
ET902	09T16653W01	DIN Socket		
ET903	01T15881W12	Power Supply, Connector		
JK201	09T15367W01	Output, RCA Jack (4P)		
LCD501	65T25053W01	LCD, Display		

Symbol No.	Part No.	Description		

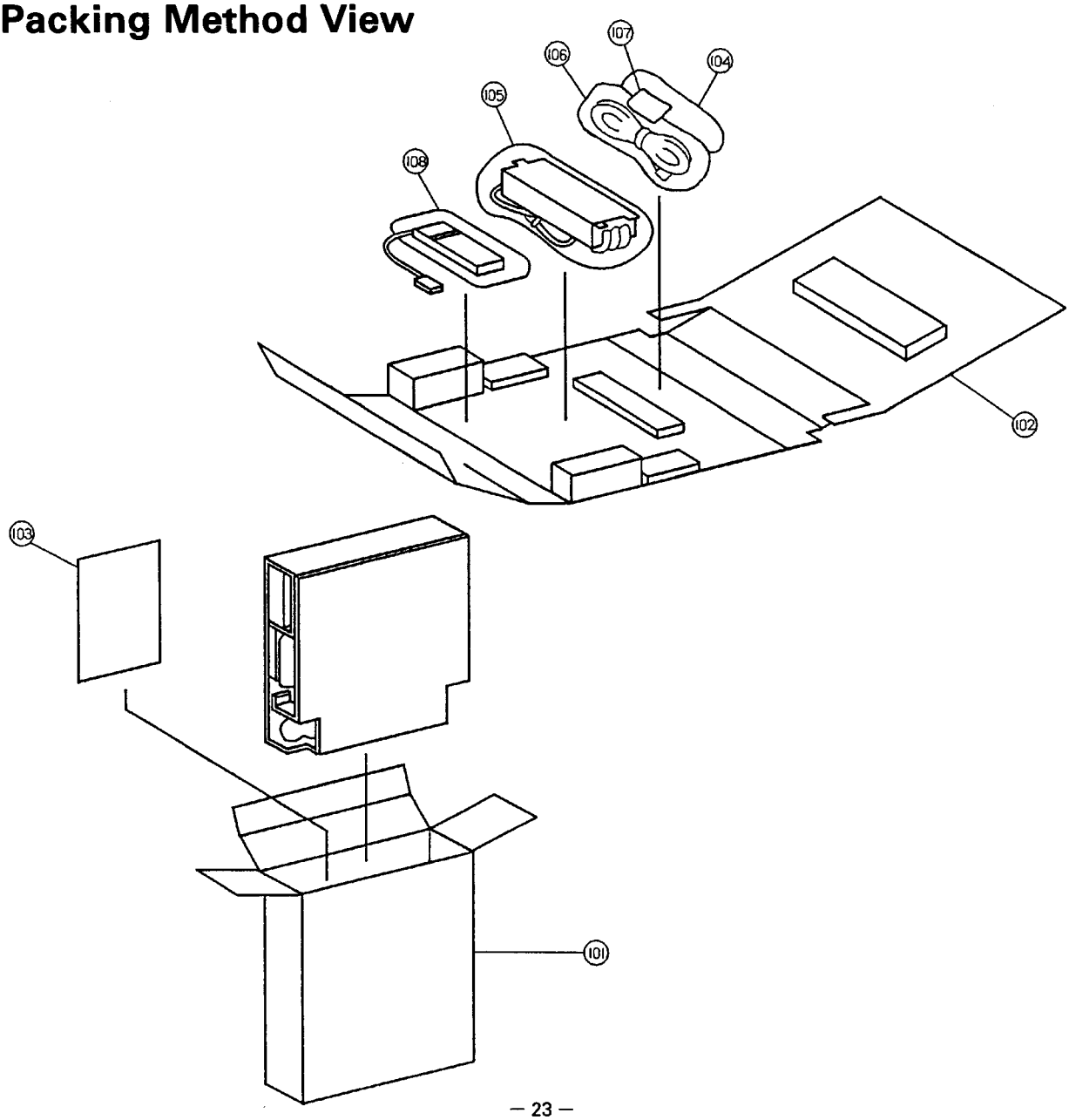
Packing Assembly Parts List

Symbol No.	Part No.	Description
101	56S20232W06	Carton, Packing (Individual)
102	56B20114W01	Tray, Packing
● 103-1	68P13420W42	Owner's, Manual
■ 103-1	68P13420W43	Owner's, Manual
▲ 103-1	68P13420W42	Owner's, Manual
▲ 103-2	68P13420W72	Owner's, Manual
104	01V21300W13	Assy., Installation Kit

Symbol No.	Part No.	Description
■ 104-1	75T58346F05	Pad, Magic Tape
■ 104-2	75T58346F06	Pad, Magic Tape
■ 104-3	03D40014G48	Screw, W/Washer (M3X4)
105	56B40230G46	Sack, Polyethylene
106	01T15880W02	Assy., Coupler (5M-A)
107	01T15882W01	Assy., RCA Adapter
108	56A20809W01	Air Sack, Polyethylene

Note : ● : For North American model only, ■ : For European model only, ▲ : For Canadian model only, Others : Common.

Packing Method View



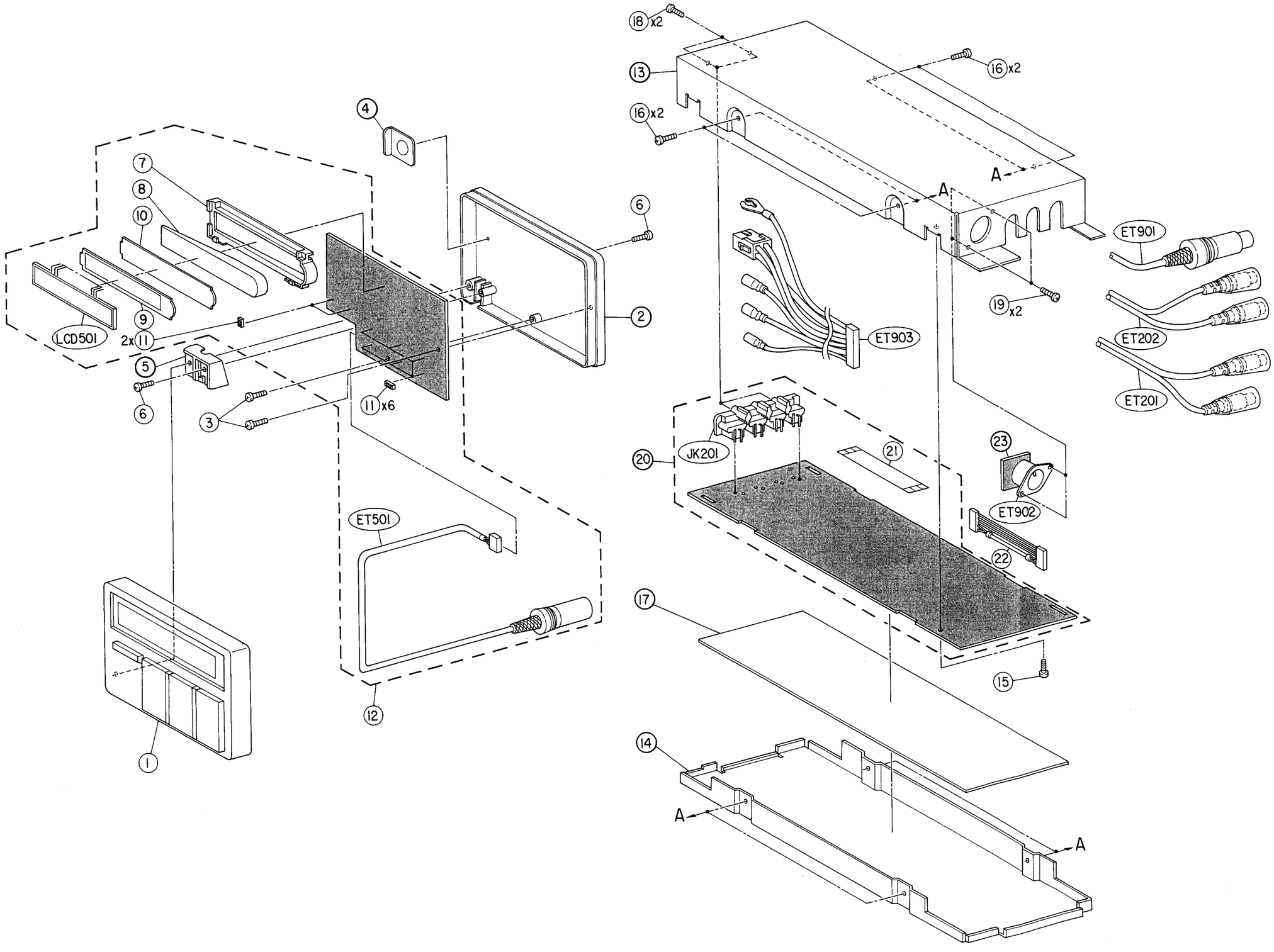
Cabinet Assembly Parts List

NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		
1	4-B	13C20129W01	Assy., Nosepiece		
3	3-B	03S70494F11	Screw, Pan (M2X5)		
6		03S70494F12	Screw, Pan (M2X8)		
7	2-B	15B20103W01	Case, LCD		
8	2-B	61A20104W0	Lens, LCD		
9	2-B	26A20107W01	Reflector, Sheet (A)		
10	2-B	26A20107W02	Reflector, Sheet (B)		
11	3-C	43A21214W01	Spacer, LED		
12	4-C	01V21300W01	Assy., Control P. C. Board		
15	4-F	03S44205G48	Screw, Pan (M2.6X5)		
16		03S44205G34	Screw, Pan (M2.6x5)		
18	1-E	03S71031F04	Screw, Bind (M3X8)		
19	2-F	03S40011G91	Screw, Bind (M2.6X5)		
21	3-F	30T15127W09	Wire, Flat (3P)		
22	4-F	01T15877W01	Assy., DIN Female		

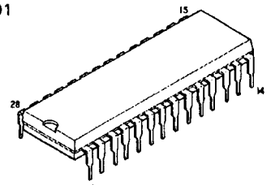
Symbol No.	Index	Part No.	Description		

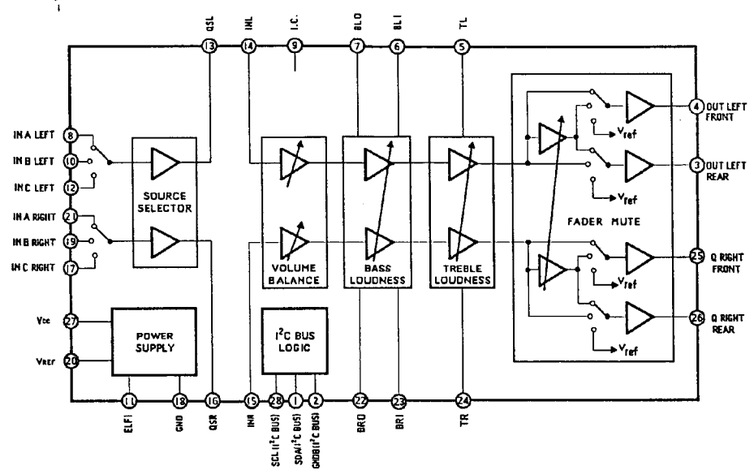
Exploded View (Cabinet)



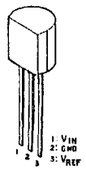
Semi-Conductor Lead Identifications

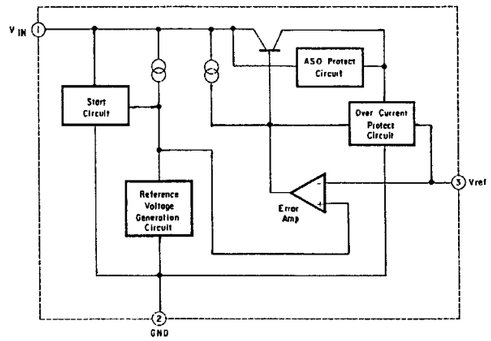
TEA6300 : IC201



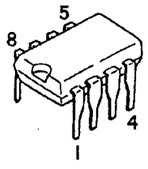


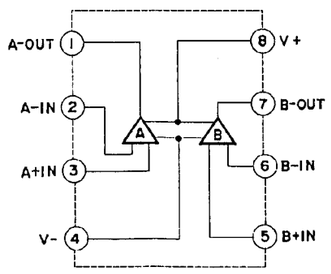
M5236L : IC202



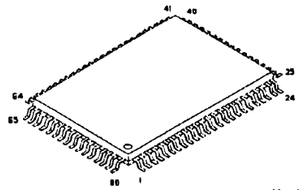


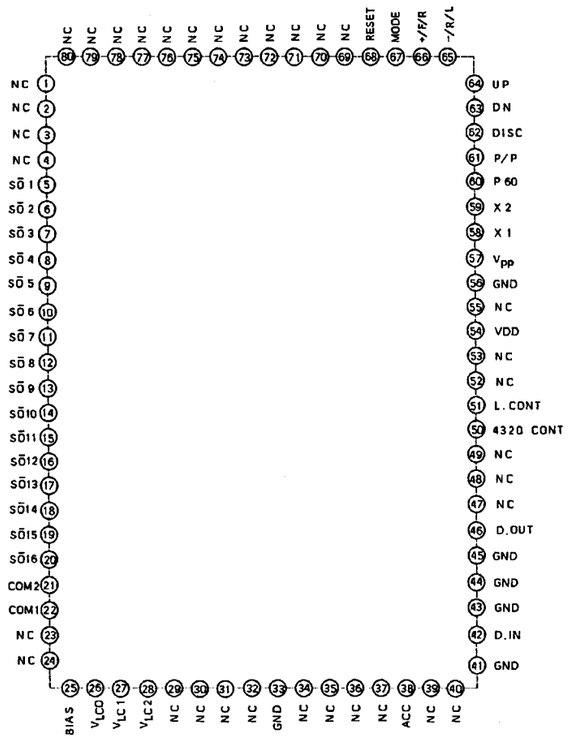
BA4560 : IC204, 205, 206



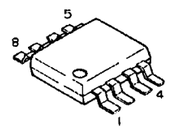


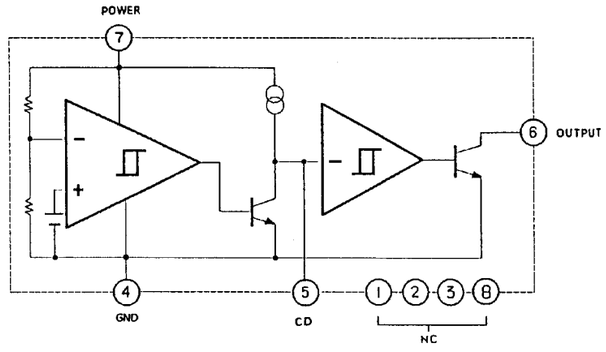
94530F12 : IC501



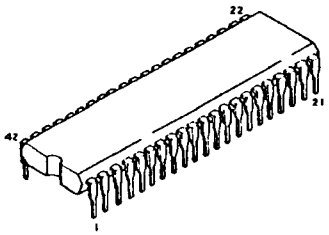


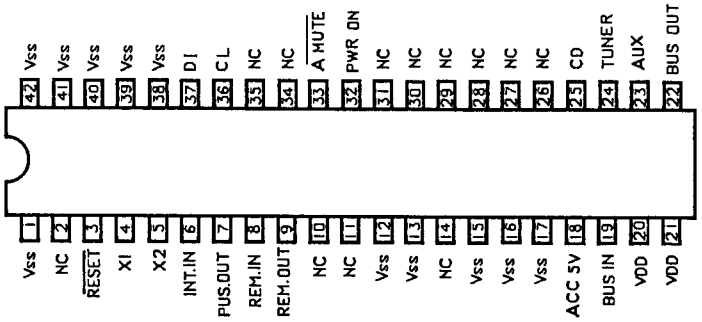
M51953BP : IC502



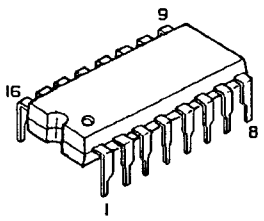


15553W01
15609W01 } : IC601

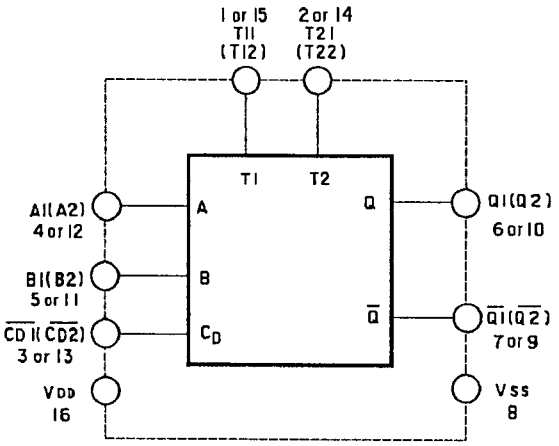




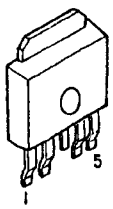
µPD4538BC : IC602

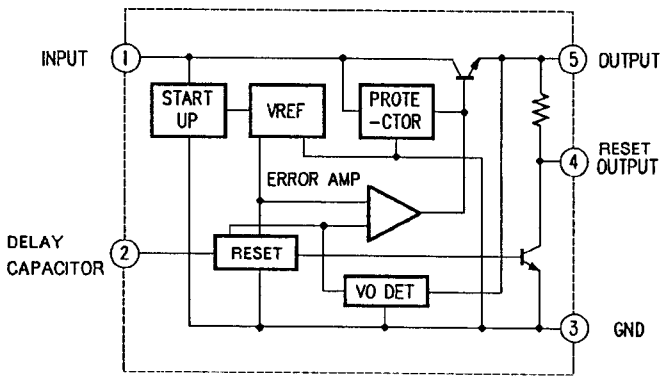


1	T11	9	$\overline{Q}$ 2
2	T21	10	Q 2
3	CD1	11	$\overline{B}$ 2
4	A 1	12	A 2
5	$\overline{B}$ 1	13	CD2
6	Q 1	14	T22
7	$\overline{Q}$ 1	15	T12
8	V_{SS}	16	V_{DD}

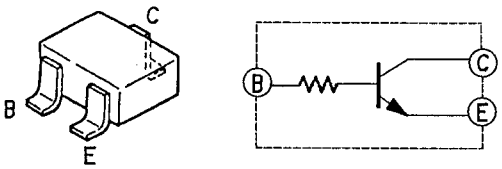


L78LR05DA : IC801

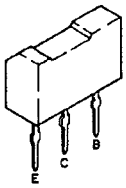




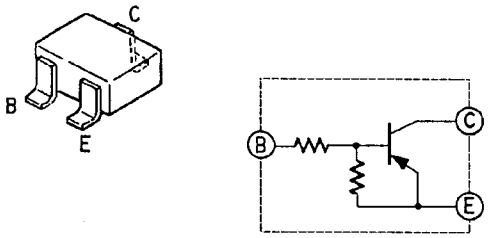
DTC343T : Q201, 202, 203, 204



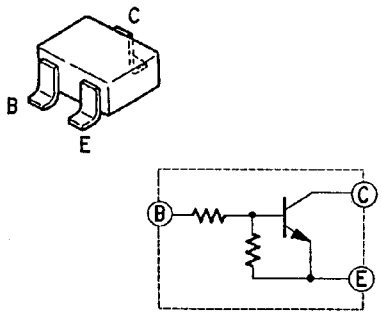
2SB911M : Q205, 801, 805



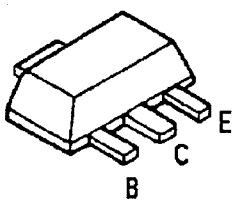
DTA144 : Q501
DTA124
UN2112 : Q808, 904
DTA114
UN2111 : Q809



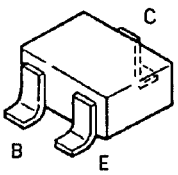
DTC144K : Q502, 507
DTC144K
UN2213 : 603
DTC124K : Q509
DTC124K
UN2212 : Q601, 802, 804, 806, 807, 810, 811, 902, 903



2SD1664 : Q503, 510
2SB1132 : Q508



2SC2412K : Q504, 505, 602, 812
2SD601A : Q602, 812
2SA1037K : Q506, 604, 803, 901
2SB709A : 604, 803, 901



DTC124EL : Q605